

## Original paper

# Chronic Dyspepsia in Iraqi Patients: Types, Causes and Common Presentations

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## Abstract

**Background:** Dyspepsia is a common problem in the outpatient clinic. The clinical presentation is variable, and often chronic.

**Aims:** is to find the proportions of organic and functional dyspepsia, the causes of organic dyspepsia, and the most common presentation of each type of dyspepsia.

**Methodology:** From January 2013 to July 2014, the types, causes, and common presentations of chronic dyspepsia were studied clinically and endoscopically in 116 patients (Male=68, Female=48) at the outpatient clinic in Al-Hindeya general hospital.

**Results:** During the 16 months study period, 62 patients had organic dyspepsia and 54 patients had functional dyspepsia. Men reported organic dyspepsia (67.4%) more often than women (32.6%), while functional dyspepsia was more common in females (52%). Out of 62 patients with organic dyspepsia, 38 had peptic ulcer disease, 12 had reflux esophagitis, 2 had hiatus hernia, and 10 had gallstones. There was a statistically significant relation between heartburn, epigastric pain and organic dyspepsia, while the relation between altered bowel motion, abdominal distention and functional dyspepsia was highly significant.

**Conclusions:** Peptic ulcer disease, reflux esophagitis, gallstones, and hiatus hernia are the most common causes of organic dyspepsia. Heartburn and epigastric pain are significant predictors to organic dyspepsia, while abdominal distention and altered bowel motion are highly significant predictors of functional dyspepsia.

**Keywords:** Dyspepsia, organic, functional, heartburn, epigastric pain, abdominal distention, and altered bowel motion.

## Introduction

Dyspepsia is a chronic pain or discomfort in the upper central part of the abdomen. It can be caused by a variety of disorders, such as peptic ulcer, reflux esophagitis, gallstones, gastric dysmotility, and rarely, gastric or esophageal cancer<sup>(1)</sup>. It is presence alerts doctors to consider diseases of the upper gastrointestinal tract<sup>(2)</sup>. Dyspepsia affects up to 80% of the population at some point in life and most patients have no serious underlying disease. Patients who present with new dyspepsia at the age of more than 55 years, and younger patients unresponsive to empirical treatment require investigations to exclude serious disease<sup>(3)</sup>. Dyspepsia is divided into organic and functional.

Organic dyspepsia can be caused by peptic ulcer, reflux esophagitis, gastric carcinoma and cholelithiasis<sup>(4)</sup>. Functional dyspepsia accounts for about 60% of dyspeptic patients. It is defined as bothersome of postprandial fullness, early satiety, or epigastric pain or burning for more than three months duration, with symptoms starting at least 6 months prior to the diagnosis in the absence of an organic cause<sup>(5)</sup>.

Dyspepsia is a common complaint in patients presenting to both hospital and general practice. It is reported in one out of four adults in Western societies<sup>(6)</sup>. In the United kingdom it probably accounts for a fifth to a quarter of all consultations in general practice and for a similar

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proportion in the gastroenterology clinics (7,8).

Oesophagogastroduodenoscopy (OGD) is the study of first choice in the evaluation of dyspepsia. It enables direct visualization of peptic ulcer, erosive esophagitis, and gastric cancer with high diagnostic accuracy (9).

This study was performed to determine the proportions of organic and functional dyspepsia in patients with chronic dyspepsia more than three months duration, to find the causes of organic dyspepsia, and the most significant clinical presentation of each type of dyspepsia.

## Methodology

A prospective cross sectional study of patients with chronic dyspepsia for more than three months duration was investigated to discover its causes. The study was conducted in the out patients clinic at Al-Hindeya general hospital from January 2013 to July 2014. Patients' symptoms were recorded and all of them underwent a full clinical examination. The patients had no history of dyspepsia inducing drug intake. All patients had full blood count, liver function test, renal function test, random blood sugar, and abdominal ultrasound examination. Patients with diseases involving other systems such as chronic renal failure or liver cirrhosis were excluded from the study. The remaining 116 patients underwent OGD examination including patients with ultrasound proved gallstones.

We did endoscopic examination regardless to patients' age and the OGD involving patients below 50 years with no alarming signs. The OGD was done by two well-trained gastroenterology physicians. Multiple biopsies were taken from gastric and duodenal mucosae and histopathological examination was done even to those with normally looking OGD. Histopathological examination was used for detecting malignancy, gastroduodenitis, celiac disease, and helicobacter pylori infection. Based on the results of the investigations and the endoscopic examination, patients were classified into organic and functional dyspepsia.

Chi-Square and Fisher exact probability tests were used to identify the significant difference between various proportions indicated by the *P*-value. The tests regarded significant when the *P*-value <0.05.

## Results

Of the 116 participants in the study, 68 were males and 48 were females. Patient's age for males ranged from 20 years to 72 years (mean  $33.7 \pm 4.6$  S.D.), and for females from 20 years to 68 years (mean  $32.6 \pm 3.8$  S.D.). More than half of the patients were males younger than 50 years, while females of the same age group constitute about 38%. This result shows that the majority of patients were less than 50 years-old, and only 10 (8.6%) of them were older (Table 1).

**Table 1.** Patients age groups

Age groups	Male N. (%)	Female N. (%)	Total N. (%)
20-29 years	24 (20.7)	24 (20.7)	48 (41.7)
30-39 years	30 (25.8)	10 (8.6)	40 (34.5)
40-49 years	8 (6.9)	10 (8.6)	18 (15.6)
50-59 years	4 (3.4)	2 (1.7)	6 (5.1)
60-69 years	0	2 (1.7)	2 (1.7)
70-79 years	2 (1.7)	0	2 (1.7)
<b>Total</b>	<b>68 (58.5)</b>	<b>48 (41.5)</b>	<b>116 (100)</b>

(N= Number)

Organic dyspepsia was reported in 62 (53.4%) patients, mainly males, while

functional dyspepsia affected 54 (46.6%) of the patients, mainly females (Table 2).

In organic dyspepsia peptic ulcers were the commonest causes reported in 24 (20.6%) patients, reflux esophagitis in 12 (10.3%), gallstones and gastritis shared the

same number with 10 (8.6%) for each, duodenitis in 4 (3.4%) patients, and hiatus hernia was the least (Table 2).

**Table 2.** Diagnostic categories of organic dyspepsia

Dyspepsia	Male NO. (%)	Female NO. (%)	Total	P value	
<b>Organic</b>	Duodenal ulcer	10 (8.6%)	4 (3.4%)	14 (12%)	0.013*
	Gastric ulcer	8 (6.9%)	2 (1.7%)	10 (8.6%)	
	Duodenitis	4 (3.4%)	0 (0%)	4 (3.4%)	
	Gastritis	8 (6.9%)	2 (1.7%)	10 (8.6%)	
	Reflux esophagitis	8 (6.9%)	4 (3.4%)	12 (10.3)	
	Hiatus hernia	2 (1.7%)	0 (0%)	2 (1.7%)	
	Gallstones	2 (1.7%)	8 (6.9%)	10 (8.6%)	
<b>Total</b>	42 (36.2%)	20 (17.2%)	62 (53.4%)		
<b>Functional</b>	26 (22.4%)	28 (24.2%)	54 (46.6%)		
<b>Total</b>	68 (58.5%)	48 (41.5%)	116 (100%)		

(N= Number)

The incidence of dyspeptic symptoms in each group of dyspepsia is shown in table 3. Symptoms such as

abdominal distention, heartburn, altered bowel motion, and epigastric pain shared high incidence in both types of dyspepsia.

**Table 3.** Distribution of upper gastrointestinal symptoms in major diagnostic categories of dyspepsia

Symptoms	Organic NO.= 62							Functional NO.= 54
	D.U.	G.U.	Duo.	Gast.	R.eso.	H.H	Gal.	
<b>Epigastric pain</b>	6	4	0	6	6	2	6	16
<b>Heartburn</b>	10	10	2	6	8	2	0	22
<b>Weight loss</b>	0	2	0	2	0	0	0	0
<b>Nausea &amp; vomiting</b>	2	2	0	4	4	0	6	8
<b>Flatulence</b>	6	0	4	0	0	0	8	12
<b>Altered bowel motion</b>	2	0	0	2	0	0	0	18
<b>Abdominal distention</b>	0	0	0	2	2	0	0	34

(N= number; D.U.= Duodenal ulcer; G.U.= Gastric ulcer; Duo.= Duodenitis; Gast.= Gastritis; R. eso.= Reflux esophagitis; H.H.= Hiatus hernia; Gal= Gallstones.)

On analyzing the symptoms of dyspepsia there was a significant correlation between heartburn, epigastric pain and organic dyspepsia, and a highly

significant correlation between abdominal distention, altered bowel motion and functional dyspepsia as shown in table 4.

**Table 4.** The correlation between symptoms and major dyspeptic categories

Symptoms	Dyspepsia		P value
	Organic	Functional	
<b>Epigastric pain</b>	30	16	0.039*
<b>Heartburn</b>	38	22	0.027*
<b>Weight loss</b>	4	0	0.164
<b>Nausea &amp; vomiting</b>	18	8	0.200
<b>Flatulence</b>	18	12	0.403
<b>Altered bowel motion</b>	4	18	0.0005**
<b>Abdominal distention</b>	4	34	0.001**

Significant relationship; \*\*= highly significant relationship.)(\* =

## Discussion

Duodenal and gastric ulcers were the commonest organic dyspepsia in 14(12%) and 10(8.6%) patients, respectively (table II). The male to female ratio for duodenal ulcer was 2.5:1, while for gastric ulcer it was 4:1. This result is consistent with that of many studies done in other centers<sup>(3)</sup>. Gastritis and duodenitis were noticed in 10(8.6%) and 4(3.4%) patients, respectively. Antral gastritis was present in all cases of gastritis. Dyspepsia in the aforementioned categories were attributed to peptic ulcer disease affecting 38(32.6%) patients, which is higher than similar results of studies done in Myoclinic and Bristol<sup>(8)</sup> (22.6% and 20.1%, respectively). The main cause of our higher incidence that gastroduodenitis was not accepted as a part of the spectrum of peptic ulcer disease in the two latter studies. In addition, our inclusion criteria involved patients with history of dyspeptic symptoms of more than three months, compared with the two mentioned studies which included patients with history of dyspepsia regardless of the duration of symptoms. In this case, history of chronic dyspepsia was more suggestive of organic disease than acute dyspepsia.

In our study we found reflux esophagitis in 12(10.3%) patients (Table 2), a result that was consistent with some studies done on dyspepsia<sup>(10,11)</sup>, but our data were significantly lower than that of Myoclinic and Bristol studies (14.4% and 19.2%, respectively). The variability in exposure to risk factors and the large sample size in the two latter studies (820 and 2000 patients, respectively) might explain this difference.

Hiatus hernia was found in 2 (1.7%) patients (Table 2) complaining of heartburn and epigastric pain (Table 3) of one year duration. From the long history of complaint it appeared to be a significant finding and not just a coincidence. Myoclinic and Bristol studies did not report a similar finding. Furthermore, hiatus hernia usually associated with reflux

esophagitis and for this reason in some studies they might put it under the latter diagnosis.

Gallstones were responsible for dyspepsia in 10 (8.6%) patients (Table 2) with female to male ratio of 4:1, a result which was generally accepted because most of the patients in our study were at an age of less than 50 years, while in elderly patients above 65 years the sex ratio nearly equal<sup>(12)</sup>.

Several studies on dyspepsia had reported an incidence of carcinoma of stomach of 1-2%<sup>(13,14,15,16)</sup>. In our study we did not find any case, while in Myoclinic and Bristol studies, it was reported in 3.4% and 1.3%, respectively. This result was expected because of the small sample size and the younger age of the majority of patients included in our study. Recent reports suggested a threshold of 50 years, above which carcinoma of stomach is common<sup>(10,17,18)</sup>, and more than 98% of gastric malignancies were in patients over 50 years of age<sup>(19)</sup>. In our study only 10(8.6%) patients were over 50 years.

As a whole, 62 (53.4%) patients in our study were found to have organic dyspepsia, a result that was in agreement with that of Bristol's study (49%), but it was much less than that of Myoclinic study in which organic dyspepsia affected 80% of patients. This was probably because of the wide range of investigations used in an attempt to diagnose dyspepsia which helped diagnose other diseases such as carcinoma of colon, Zollinger-Ellison syndrome, and inflammatory bowel disease amongst others.

In our study, heartburn and epigastric pain were seen in a high percentage of patients with organic dyspepsia (64.5% and 51.6%, respectively). Although those symptoms were not very sensitive in differentiating functional dyspepsia from other causes in Myoclinic study, they seemed to be sensitive in our study. We found a significant relation between those symptoms and organic dyspepsia. The

chronic nature of the patients' disease in our study might explain this difference. In addition, altered bowel motion and abdominal distention had a highly significant relation with functional dyspepsia.

## Conclusions

Dyspepsia is a common presentation in the general practice. Chronic dyspepsia is usually associated with organic diseases. The most common cause of organic dyspepsia is peptic ulcer. Other causes include reflux esophagitis, hiatus hernia, and symptomatic gallstones. Heartburn and epigastric pain are significantly correlated with organic dyspepsia, while in functional dyspepsia there is a highly significant correlation between abdominal distention and altered bowel motion.

## Recommendations

- 1) Chronic dyspepsia patients should have the chance for investigations.
- 2) Oesophagogastroduodenoscopy is a mandatory tool for the diagnosis.

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